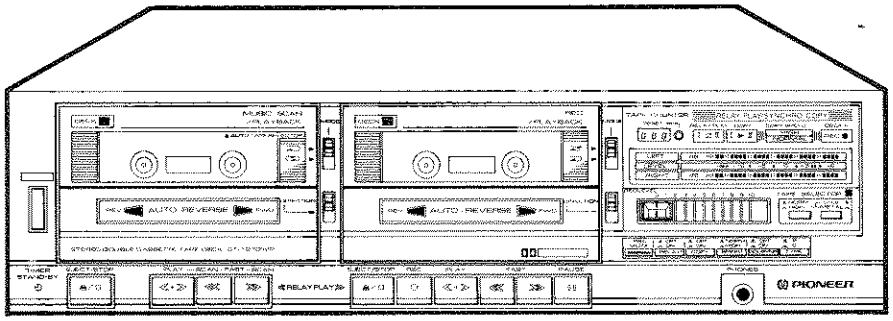
Master.

Operating Instructions

STEREO DOUBLE CASSETTE TAPE DECK
CT-1270WR



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

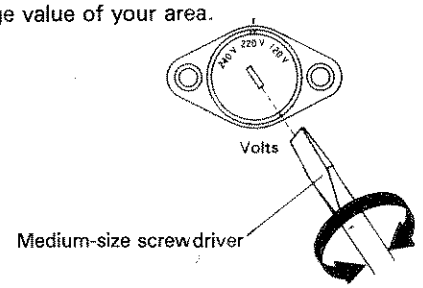
The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.



"This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC and 82/499/EEC."

PIONEER®

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

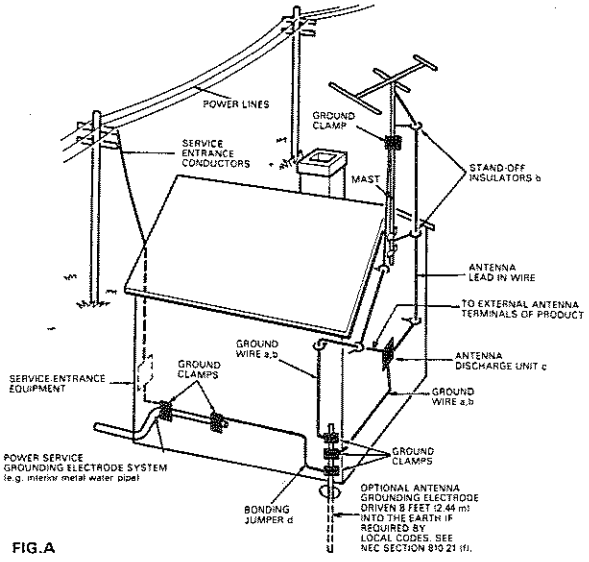

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
ANTENNA DISCHARGE UNIT c
GROUND CLAMPS
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
BONDING JUMPER d
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES. SEE NEC SECTION 810 21 (f).

FIG.A

a) Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel, bronze wire, or larger as ground wire.

b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.

c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper or equivalent when separate antenna-grounding electrode is used.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off. Disconnect the wall plug when the equipment is not in (regular) use, e.g. when on vacation.

FOR USE IN THE UNITED KINGDOM

WARNING: This plug must only be connected to electronic apparatus equipped with suitable sockets.
If not, cut off the plug and fit an appropriate type in accordance with the instructions below.
The cut-off plug must be disposed of as an electrical shock hazard could exist if connected to a socket outlet.

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

RRB1003>

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FEATURES

- Double deck equipped with auto reverse mechanism (record/playback deck + exclusive playback deck) operated by soft-push button.
- Dolby B and C Noise Reduction
- Normal and High-Speed Dubbing Functions
- Relay Play for Extended Playback
- Timer Stand-by Functions
- Music Scan

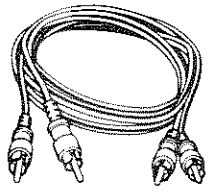
PREPARATIONS AND CONNECTIONS

CONNECTING THE CASSETTE TAPE DECK TO AN AMPLIFIER

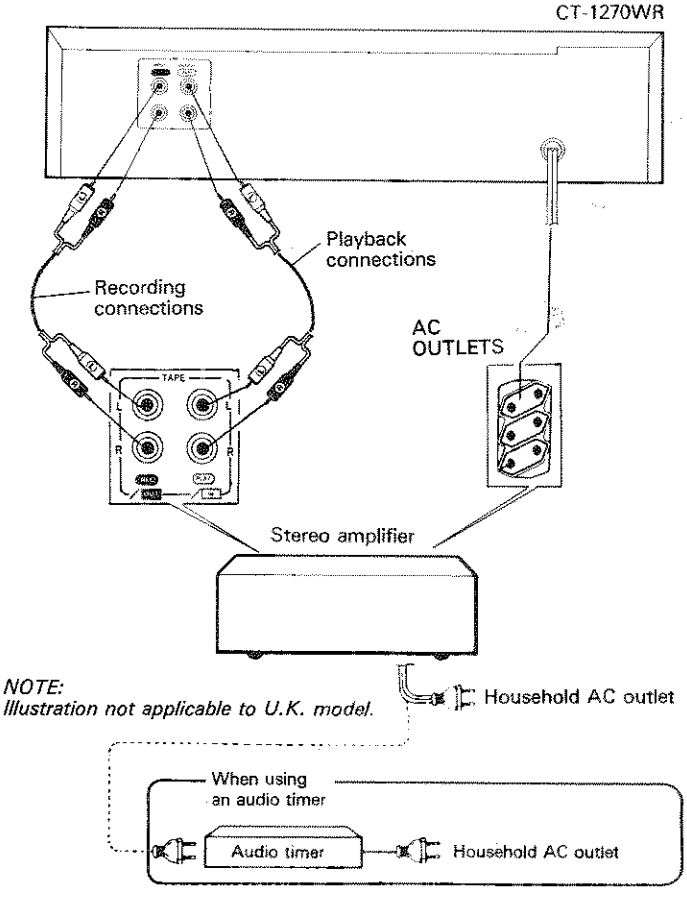
- Read through the operating instructions of the stereo components which you intend to connect to this unit.
- Turn on the power only after all the connections are completed.
- The top jacks are for the left (L) channel; the bottom jacks are for the right (R) channel.
- Make sure that the plugs are inserted securely. Improper connection may generate noise.
- Avoid placing the unit directly on top of an amplifier since this may cause humming or other noise.
- Avoid installing the unit too close to a TV set since humming can arise during recording operations.

CHECK ACCESSORIES

Connection cord with pin plugs x 2



x 2



NOTE:
Illustration not applicable to U.K. model.

FRONT PANEL FACILITIES

POWER (STAND-BY) switch

NOTE:
The unit's POWER switch is designed to select the transformer's secondary and so even at the STAND-BY position, the unit's circuitry will work as long as the power cord is connected to power outlet. Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time.

Deck I Reverse MODE switch

(⇄) position
Set to this position to play back both sides of the cassette. When the tape reaches the end during playback in the FWD direction, the deck will automatically reverse directions and playback the other side of the cassette. When the tape reaches the end in the REV direction, the deck will stop automatically. Start playback from the FWD direction to play back both sides of the tape automatically.

(⇄) position
Set to this position to play back both sides of the tape continuously.

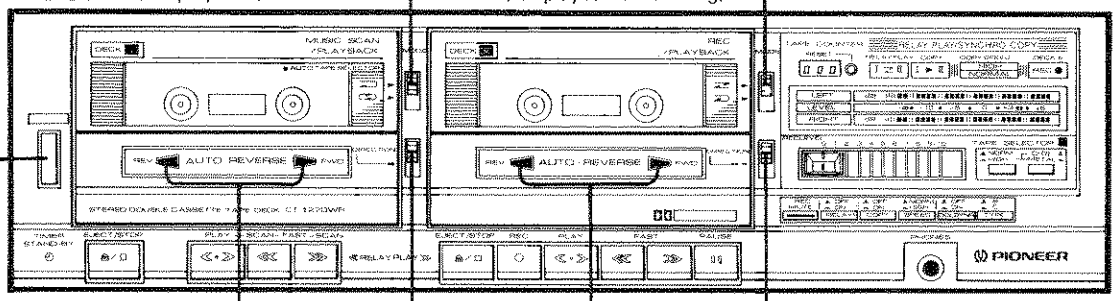
Deck II Reverse MODE switch

(⇄) position
Set to this position for playback or recording of only one side of the cassette. The deck will stop automatically when the tape reaches the end.

(⇄) position
Set to this position for playback or recording of both sides of the cassette. When the tape reaches the end during playback (or recording) in the FWD direction, the deck will automatically reverse directions and play back (or record) the other side of the cassette. When the tape reaches the end in the REV direction, the deck will stop automatically. Playback (or recording) must be started from the FWD direction in order for the auto-reverse function to work.

Deck I (for playback)

Deck II
(for playback/recording)



Deck I Tape direction indicators

Indicate direction of tape playback.
FWD: Side A (visible side) playback
REV : Side B (side not visible) playback

Deck II DIRECTION lever

Use to change the playback/recording direction of Deck II. Each time this lever is pushed down the playback/recording direction will be changed. (This lever cannot be locked.)

Deck I DIRECTION lever

Use to change the playback direction of Deck I. Each time this lever is pushed down the playback direction will be changed. (This lever can not be locked.)

Deck II tape direction indicators

Show direction of tape playback or recording
FWD: Side A (visible side) playback/recording
REV : Side B (side not visible) playback/recording

REC LEVEL control

Tape COPY switch (OFF/ON)

Press for tape copying. This switch should always be in the OFF (▀) position when not copying tapes. If the COPY switch is set to the ON (▀) position, it will not be possible to record signals from the LINE INPUT terminals. Also, when the COPY switch is in the ON (▀) position, Deck I will not operate unless Deck II is in the REC or REC/PAUSE mode.

RELAY play switch (OFF/ON)

When the RELAY play switch is in the ON (▀) position, relay play can be performed between Deck I and Deck II.
When the RELAY play switch is in the ON (▀) position, if the PLAY button of either deck or the REC button (Deck II only) is pressed, the PLAY, FF, and REW buttons of the other deck will not function.

Deck II REC MUTE button

During recording on Deck II, the input signal will be cut while this button is held depressed, creating a blank interval on the tape.

COPY SPEED switch (NORM/HIGH)

HIGH (▀): When the unit is in the tape copy mode, pressing this switch will cause high speed copying to take place.

NORM (▀) Tapes are copied at the normal speed.

LEVEL meter

Deck II REC indicator

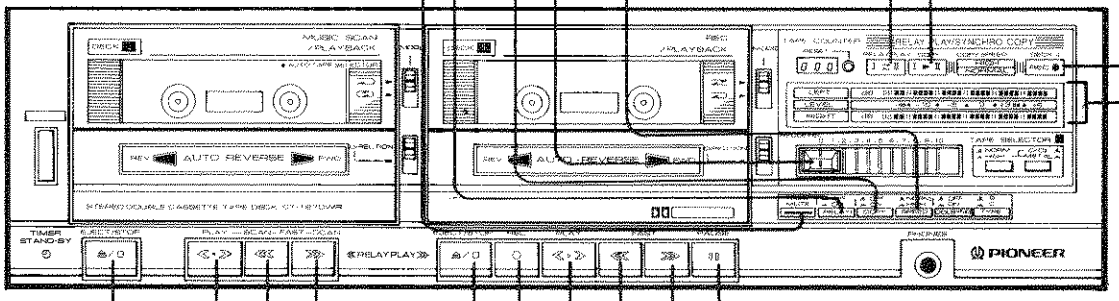
Lights when Deck II is in the record mode.

COPY indicator

Lights when Deck I and Deck II are in the tape copy mode.

RELAY PLAY indicator

Lights when Deck I and Deck II are in the relay play mode.



Deck I PLAY button

Playback on Deck I starts when this button is pressed. Playback direction is shown by the Deck I tape direction indicators (FWD or REV).

Deck I FAST/SCAN buttons

When one of these buttons is pressed, the tape in Deck I is wound rapidly in the direction shown by the arrow above the button pressed. When pressed during playback, the tape will be played back rapidly. This allows you to cue or review the tape to locate a desired position.

Deck I EJECT/STOP button

The cassette compartment door will open when this button is pressed while the tape is stopped. Pressing it while the tape is running will stop the tape.

Deck II EJECT/STOP button

The cassette compartment door will open when this button is pressed while the tape is stopped. Pressing it while the tape is running will stop the tape.

Deck II PAUSE button

Tape travel will be stopped temporarily during recording or playback on Deck II when this button is pressed.

Deck II FAST buttons

When one of these buttons is pressed, the tape will be wound rapidly in the direction of the arrow above the button pressed.

Deck II PLAY button

Playback on Deck II starts when this button is pressed. Playback direction is shown by the Deck II tape direction indicators (FWD or REV).

Deck II REC button

When the REC button is pressed, the PLAY button will also be engaged automatically and recording on Deck II will start. It will not be possible to depress this button if the accidental erasure prevention tabs on the cassette have been removed, or if the tape is not loaded properly. Never try to force it.

TAPE SELECTOR II switches

The selectors allow the bias and equalization characteristics during recording, and equalization characteristics during playback, to be selected on Deck II in accord with the type of tape used.

Normal tape:
Release the left-hand switch to the "out" position (■ NORM).

CrO_2 tape:
Press the left-hand switch and set it to the "in" position (■ HIGH) and rease the right-hand switch to the "out" position (■ CrO_2).

Metal tape:
Press both the left and right-hand switches to the "in" position (■ HIGH, ■ METAL).

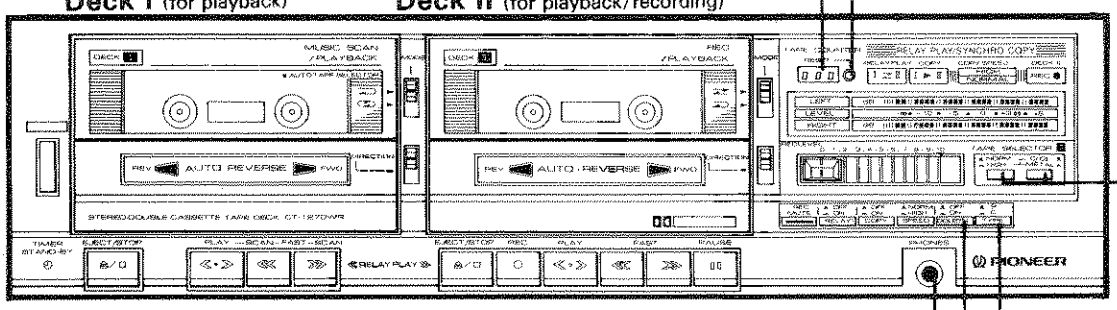
NOTE:
Deck I is provided with an automatic tape selector mechanism.

Tape counter RESET button

Deck II TAPE COUNTER

Three-digit counter indicates the current position on the tape in Deck II.

Deck I (for playback) **Deck II** (for playback/recording)



PHONES jack

DOLBY B-C NR switches

Make sure that the switch is set to the same setting when playing back tapes recorded with the Dolby B or C type noise reduction system.

Dolby NR OFF:
Release the left-hand switch to the "out" position (■ OFF).

Dolby B-type NR ON:
Press the left-hand switch and set it to the "in" position (■ ON) and release the right-hand switch to the "out" position (■ B).

Dobly C-type NR ON:
Press the left and right-hand switches to the "in" position (■ ON, ■ C).

- Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

HOW TO HANDLE CASSETTE TAPES

CHECK CASSETTE BEFORE USE

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack (Fig. A).
Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for?

A cassette is provided with these tabs so that important or otherwise valuable recordings will not be erased accidentally.
When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to depress the recording (REC) button, so valuable recordings will not be erased in error.
To re-record a cassette on which tabs have been broken out, simply apply a piece of adhesive tape over the tab areas, as shown in Fig. C.

NOTE:
The accidental erasure prevention tabs are located at the top left on both sides A and B (1 or 2), so that material on each side can be prevented from being erased in error.

TIPS ON USING CASSETTE TAPES

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.

How to take up tape slack

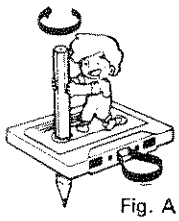


Fig. A

How to prevent already recorded tapes from being erased

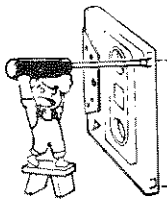


Fig. B

Adhesive tape for re-recording

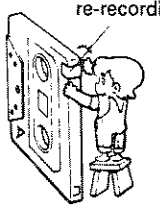


Fig. C

NOISE REDUCTION SYSTEM

This unit features a dual noise reduction system (Dolby NR B and C systems).

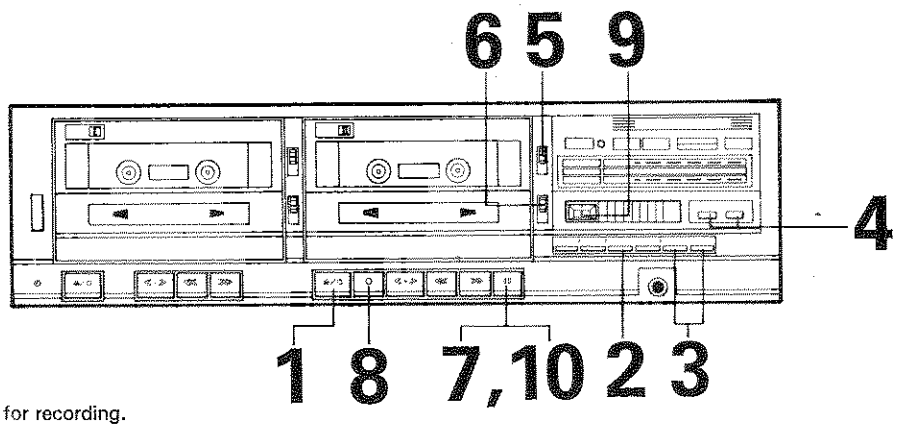
Dolby NR system

The Dolby NR system is designed to reduce the amount of tape hiss (mainly in the treble components). During recording, the high-pitched pianissimo sounds which are most characteristic of audible noise are boosted, and during playback these boosted sections only are attenuated so that the tape sound is returned to normal. As a result, the noise is attenuated by an amount equivalent to the boosting in the treble range.

The Dolby NR B system serves to reduce noise in the treble range, it cuts tape hiss and expands the dynamic range. The Dolby NR C system is even more effective than the B in reducing noise as it cuts the noise from the mid-range on.

NOTE:
When a tape has been recorded using the Dolby NR B or C system, make sure that the same DOLBY NR switch position is selected when it is played back.

RECORDING



- Only Deck II can be used for recording.
  Deck I (left side) cannot be used for recording.
- The REC button cannot be depressed if the accidental erasure prevention tabs have been removed from the tape loaded, or when no tape is loaded. (See page 7.) Never try to force the REC button as you may damage the deck.

1 **Press the EJECT/STOP button to open the cassette compartment door, load a tape, and close the compartment door.**

2 **Set the COPY switch to the OFF (■) position.**
- If the COPY switch is in the ON (▬) position, program signals from the LINE INPUT (REC) jacks cannot be recorded.

3 **Press the appropriate DOLBY NR switches (OFF/B/C).**

4 **Set the TAPE SELECTOR [II] switches according to the type of tape used.** (See page 6.)

5 **Set the Reverse MODE switch appropriately.** (See page 4.)
- When set to the (⮌) position to record both sides of the tape, make sure that you start recording in the FWD direction. The tape will stop automatically when it comes to the end in the REV direction.

6 **To record in the direction opposite that shown by the lighted tape direction indicator, press the DIRECTION lever to select the desired direction.**
- The recording direction will change each time the lever is pressed.

7 **Press the PAUSE button.**

8 **Press the REC button.**
- The PLAY button will be engaged automatically when the REC button is pressed, and the REC indicator will light. Since the PAUSE button has been pressed, Deck II will be in the recording stand-by mode, and recording will not start yet.

9 **Adjust the REC LEVEL control.**
- Select the program source on the amplifier, and adjust the recording level with the REC LEVEL control according to the instructions given in the section entitled "Adjusting the Recording Level."

10 **Press the PAUSE button.**
- Recording will start when the PAUSE button is pressed.

- You can press the PAUSE button anytime during recording to stop recording momentarily. Pressing it again will restart recording.
- To stop recording entirely, press the EJECT/STOP button. Pressing it again will eject the tape.

ADJUSTING THE RECORDING LEVEL

The adjustment of the recording level is the most important factor in achieving good recording results. A high level is good for the signal to-noise ratio and the dynamic range but an excessively high level distorts the sound, If the level is made too low out of fear of distorting the sound, irritating tape hiss will mar the recording. Depending on the manufacturer and type of tape, the characteristics of a tape differ even when the same kind is used. Making a setting just near the tape's maximum recording level will do full justice to a tape's characteristics and result in a good-quality recording.
Adjust the REC LEVEL control so that the level meters's "0 dB" just lights. No harm will be done if the "+3 dB" indicator lights momentarily at peaks (when using metal tapes, it is permisible for the "+6 dB" indicator to light momentarily).

NOTE:
- *The ▯▯ mark on the level meter indicates the reference level for the Dolby NR system.*
- *In reality, the optimum recording level may differ somewhat, depending on the music source and type of tape used, In order to deliver the best results of which your tapes are capable and to produce better recordings, set the recording level after actual testing, by listening carefully to the sound produced and adjusting it to a level most pleasing to you.*
- *The level meter may react differently during recording and playback of the same music tape; this is due to differences in tape sensitivity, and creates no problem so long as the variation is not severe.*

REC MUTE FUNCTION (Creating unrecorded blanks)

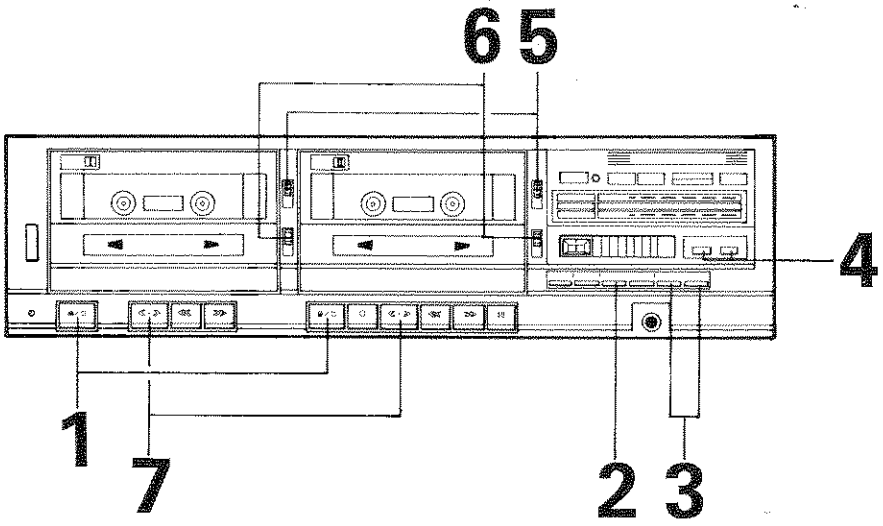
When the REC MUTE button is pressed during recording, an unrecorded blank lasting as long as the button is kept depressed is created.

1. Press the REC MUTE button during the recording at the point on the tape where the unrecorded blank is to be created.
2. No sound will be recorded while this button is kept depressed; when it is released, the recording will be resumed. Hold the button depressed for 4 seconds to create an unrecorded blank lasting 4 seconds.

PLAYBACK

- Both Deck I and Deck II can be used to play back tapes.
- If playback is started on both decks at the same time, only the output from Deck II will be heard. Deck II must be stopped in order to play back a tape in Deck I.

SINGLE PLAYBACK



1 **Press the EJECT/STOP button of the deck to be used for playback to open the cassette compartment door, insert a prerecorded cassette, and close the door.**

2 **Set the COPY switch to the OFF (■) position.**
- If the COPY switch is in the ON (■) position, Deck I will not operate unless Deck II is in the REC or REC/PAUSE mode.

3 **Press the appropriate DOLBY NR switches (OFF/B/C).**
- Select the DOLBY NR switches for the type of Dolby noise reduction that was used when the tape was recorded (or OFF if no noise reduction was used).

4 **If using Deck II, set the TAPE SELECTOR [II] switches according to the type of tape used.** (See page 6.)
- This setting is unnecessary if Deck I is used. (Deck I is equipped with an automatic tape selector function.)

5 **Set the Reverse MODE switches appropriately.** (See page 4.)

6 **If you wish to start playback in the direction opposite to that shown by the lighted tape direction indicator, press down the DIRECTION lever to select the opposite direction.**
- Playback direction is changed each time the DIRECTION lever is pushed.

7 **Press the PLAY button.**
- Playback will start.

■ To stop playback, press the EJECT/STOP button. Pressing it again will cause the cassette compartment door to open, allowing you to remove the tape.

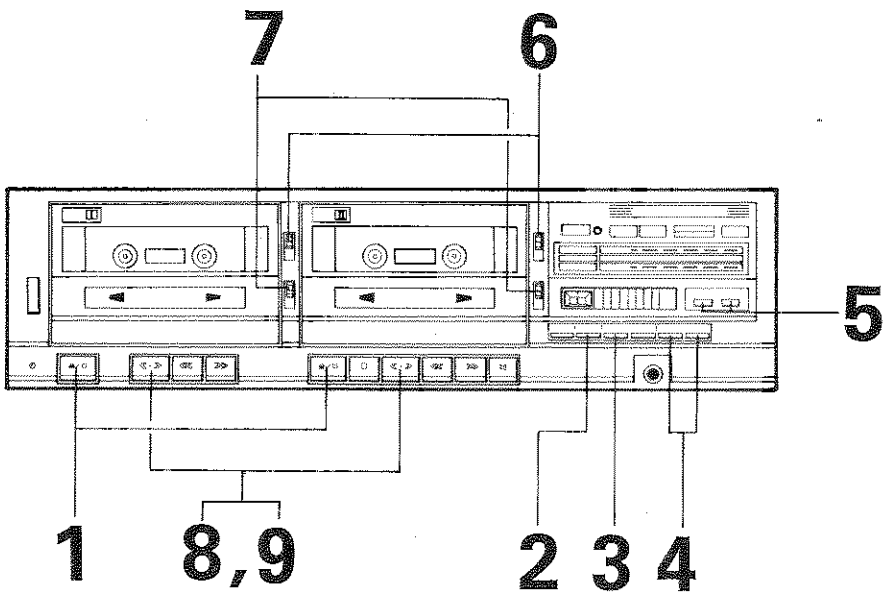
MUSIC SCAN

- The Music Scan function operates only on Deck I.
- When used together with the CUE and REVIEW operations, Music Scan is useful for locating the beginning of selections on a tape.
- The Music Scan function is activated when one of the FAST buttons (≫ or ≪) on Deck I is pressed during playback.
- Note that the FAST buttons (≫, ≪) will not lock when they are pressed during playback. They must be held depressed during CUE and REVIEW operations. Normal playback will resume when they are released.

	Start of previous selection	Start of next selection
During FWD playback	FAST (≪) button	FAST (≫) button
During REV playback	FAST (≫) button	FAST (≪) button

NOTE:
- *To switch from the Music Scan operation to fast forward or rewind operation, first press the STOP switch and then the FAST (≫ or ≪) switch.*
- *Reduce the volume level of the stereo amplifier before performing the Music Scan operation. If the volume is too high, the tweeters in the speaker system may be damaged.*

RELAY PLAYBACK



- Relay playback permits uninterrupted playback from Deck I to Deck II, or from Deck II to Deck I.

1 **Press the EJECT/STOP button on both Deck I and Deck II to open the cassette compartment doors, load a prerecorded cassette into each deck, and close the doors.**

2 **Set the RELAY PLAY switch to the ON (■) position.**
- The RELAY PLAY indicator (⇄) will light.
- As long as the RELAY PLAY switch is ON (■), the deck that is not currently playing back will not operate until the currently playing deck has stopped, even if any of the control buttons are pressed.

3 **Set the COPY switch to the OFF (■) position.**
- The RELAY switch will not function if the COPY switch is in the ON (■) position.

4 **Press the appropriate DOLBY NR switches (OFF/B/C).**
- Select the switches that correspond to the type of Dolby noise reduction used when recording the tape.

5 **Set the TAPE SELECTOR Ⅱ switches according to the type of tape loaded in Deck II.** (See page 6.)
- Deck I is equipped with an automatic tape selector function, so this setting is not necessary.

6 **Set the Reverse MODE switches appropriately.**
- Relay play can be performed in a variety of ways depending on the setting of the Reverse MODE switches on Deck I and Deck II. Set these switches according to the chart on the next page.

7 **To start playback in the direction opposite that shown by the lighted tape direction indicators, push the DIRECTION lever for each deck to choose the desired direction.**
- Playback direction changes each time the DIRECTION levers are pushed.
- You can play both sides of the tapes in relay play by setting the Reverse MODE switch to the (⇄) position. When doing so, always set the direction switch to start playback in the FWD direction. Make sure that the supply reel (full reel) of the cassette tape is on the left.

8 **Press the PLAY button of the tape deck to be started first.**
- Playback will start.

9 **Press the PLAY button of the other deck.**
- This deck will be in the PLAY stand-by mode, and the tape will not start yet. Playback on this deck will begin when the first deck has stopped.
- You can force playback on the second deck to start by pressing the EJECT/STOP button on the first deck to stop it.

Relay play and reverse MODE switch settings

(*) indicates that the auto-reverse function will work to play the other side of the tape when playback is started in the FWD direction.

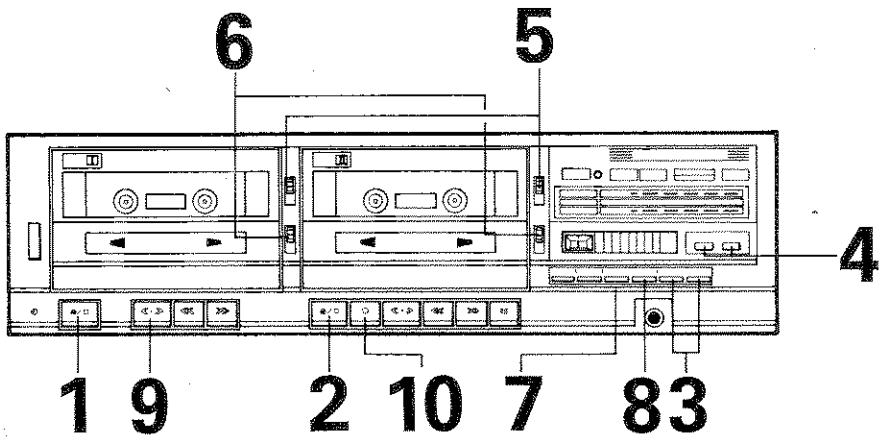
[Starting playback on Deck I]

Deck I Reverse MODE	Deck II Reverse MODE	Relay Operation
*		Automatic stop at the end of reverse playback on Deck I. Deck II then starts playback in the direction set, and stops at the end of the tape.
*	*	Automatic stop at the end of reverse playback on Deck I. Deck II then starts playback in the direction set, and stops at the end of reverse playback.
		Repeat play of the tape in Deck I. Deck II will not operate.

[Starting playback on Deck II]

Deck I Reverse MODE	Deck II Reverse MODE	Relay Operation
*		Automatic stop at the end of the tape in Deck II after playback in the set direction. Deck I then starts playback in the set direction, and stops at the end of reverse playback.
*	*	Automatic at the end of reverse playback on Deck II. Deck I then starts playback in the set direction, and stops at the end of reverse playback.
		Automatic stop at the end of playback in the set direction on Deck II. Repeat playback then starts on Deck I in the set direction.
	*	Automatic stop at the end of reverse playback on Deck II. Repeat playback the starts on Deck I in the set direction.

TAPE COPYING



- The tape copying function permits you to copy the contents of a tape in Deck I to a tape in Deck II.
- The Copy SPEED switch (NORM/HIGH) is used to select either normal speed copying (to listen to playback as a tape is being copied) or high speed copying (the tape is copied at twice normal playback speed).

1 **Press the EJECT/STOP button on Deck I to open the cassette compartment door, insert a prerecorded tape (tape to be copied), and close the door.**

2 **Press the EJECT/STOP button on Deck II to open the cassette compartment door, insert a recording tape, and close the door.**

3 **Press the appropriate DOLBY NR switches (OFF/B/C).**
- This setting has no affect on the copying operation. It affects only the playback signal of the tape in Deck I for monitoring during normal speed copying.

4 **Set the TAPE SELECTOR [I] switches according to the tape used in Deck II.** (See page 6.)
- Deck I is equipped with an automatic tape selector function, so this setting is made automatically for the tape in Deck I.

5 **Set the Reverse MODE switches appropriately.** (See page 4.)
- To copy both sides of a tape, set the Reverse MODE switch of both Deck I and Deck II to the (⇄) position.

6 **To start playback and recording in the direction opposite to that shown by the tape direction indicators, press the DIRECTION levers for each deck.**
- When the Reverse MODE switches are set to the (⇄) position for copying of both sides of a tape, always start playback and recording in the FWD direction. Load the tapes so that the supply reel (full reel) is on the left side.
- Playback and recording direction is changed each time the DIRECTION lever is pressed.
- If the COPY switch is ON (■) at this point, the DIRECTION lever for Deck I will not function. Set the playback direction with the COPY switch in the OFF (■) position.

7 **Set the COPY switch to the ON (■) position.**
- The COPY indicator (►) will light.

8 **Set the Copy SPEED selector to the NORM or HIGH position.**
NORM: Tape copying at normal speed for listening to playback.
HIGH: Tape copying at twice normal speed.

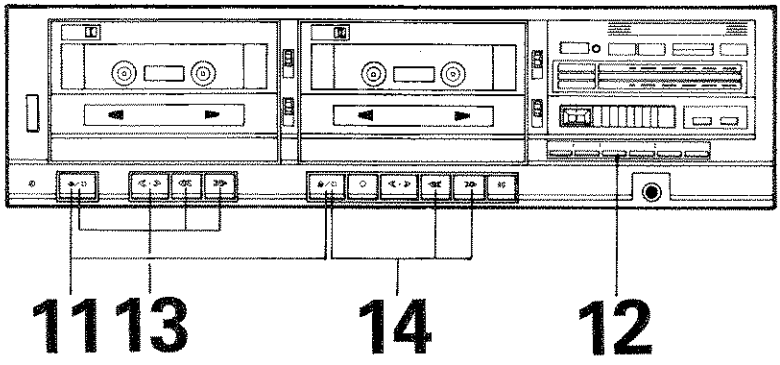
9 **Press the PLAY button on Deck I.**
- Deck I will enter the PLAY stand-by mode, and playback will not start yet.

10 **Press the REC button on Deck II.**
- When the REC button on Deck II is pressed, the PLAY button on Deck II will be engaged automatically, and copying will begin.

NOTE DURING TAPE COPYING:
- *When repeating the tape copying, be sure to leave the original tape in deck I. Making a copy of a copy will result in a deterioration in sound quality.*
- *When making tape copies, adjustment of the recording level is not required.*
- *When performing tape copying, be sure to use tapes of the same length.*
- *When performing tape copying, the copy will be produced with the same noise reduction effects as those used on the original tape, regardless of the position of the noise reduction switches. For example, if the original tape was recorded with the Dolby C noise reduction, the copy will be produced with the same Dolby C noise reduction effects.*
- *If a tape prerecorded at a high recording level is loaded in Deck I, and an empty tape with a low saturation level is loaded in Deck II for copying, the resulting sound may be distorted.*
- *Do not change the SPEED swtich position during tape copying.*
- *When you wish to perform MUSIC SCAN (CUE or REVIEW) using Deck I while copying a tape, put Deck II into the REC PAUSE (REC stand-by) mode. If you do not do this, noise may be recorded.*
- *The playback sound output from the LINE OUTPUT terminals during copying is to enable you to check the COPY operation. Consequently, it may sometimes differ slightly from the original sound.*

NOTE DURING HIGH-SPEED COPYING
When performing high-speed copying with this unit, if a television is used nearby, a high-pitched interference sound may be heard on the recording. In this case, either use the normal-speed copying function, or turn off the power of the television.

RE-COPYING PROCEDURE



- Follow the procedure given below to restart tape copying if it has been stopped.

11 **Press the EJECT/STOP buttons on both Deck I and Deck II.**

12 **Set the COPY switch to the OFF position.**

13 **Press the PLAY button on Deck I to restart playback, use the FAST buttons (≪ or ≫) to locate the point from where you wish to resume copying, and stop the tape at that point with the EJECT/STOP button.**

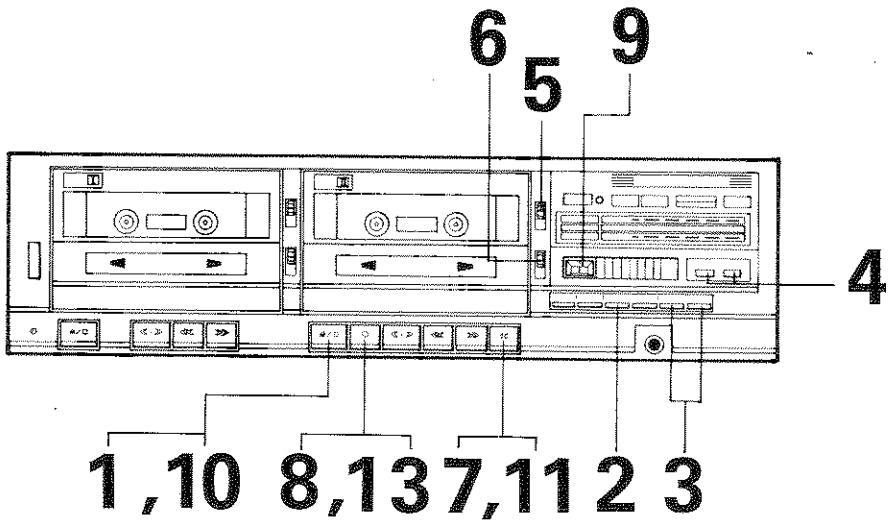
14 **Use the FAST buttons (≪ or ≫) on Deck II to move the tape to the point from which you will resume recording, and stop it there by pressing the EJECT/STOP button.**

15 **Repeat above steps 7 to 10.**

RECORDING AND PLAYBACK USING AUDIO TIMER

- This procedure may differ according to the timer used. Refer to the timer operating instructions for information on its use.

UNATTENDED RECORDING



- Only Deck II can be used for recording.
  Deck I (left side) cannot be used for recording.
- The REC button cannot be depressed if the accidental erasure prevention tabs have been removed from the tape loaded in Deck II, or when no tape is loaded. (See page 7.) Never try to force the REC button as you may damage the deck.

1 **Press the EJECT/STOP button to open the cassette compartment door, load a tape, and close the compartment door.**

2 **Set the COPY switch to the OFF (■) position.**
- If the COPY switch is in the ON (■) position, program signals from the LINE INPUT (REC) jacks cannot be recorded.

3 **Press the appropriate DOLBY NR switches (OFF/B/C).**

4 **Set the TAPE SELECTOR [II] switches according to the type of tape used.** (See page 6.)

5 **Set the Reverse MODE switch appropriately.**
(See page 4.)
- When set to the (⇄) position to record both sides of the tape, make sure that you start recording in the FWD direction. The tape will stop automatically when it comes to the end in the REV direction.

6 **To record in the direction opposite that shown by the lighted tape direction indicator, press the DIRECTION lever to select the desired direction.**
- The recording direction will change each time the lever is pressed.

7 **Press the PAUSE button.**

8 **Press the REC button.**
- The PLAY button will be engaged automatically when the REC button is pressed, and the REC indicator will light. Since the PAUSE button has been pressed, Deck II will be in the recording stand-by mode, and recording will not start yet.

9 **Adjust the REC LEVEL control.**
- Tune in the radio station to be recorded, and adjust the recording level according to the procedure given on page 8 in the section "ADJUSTING THE RECORDING LEVEL."

10 **Press the EJECT/STOP button.**

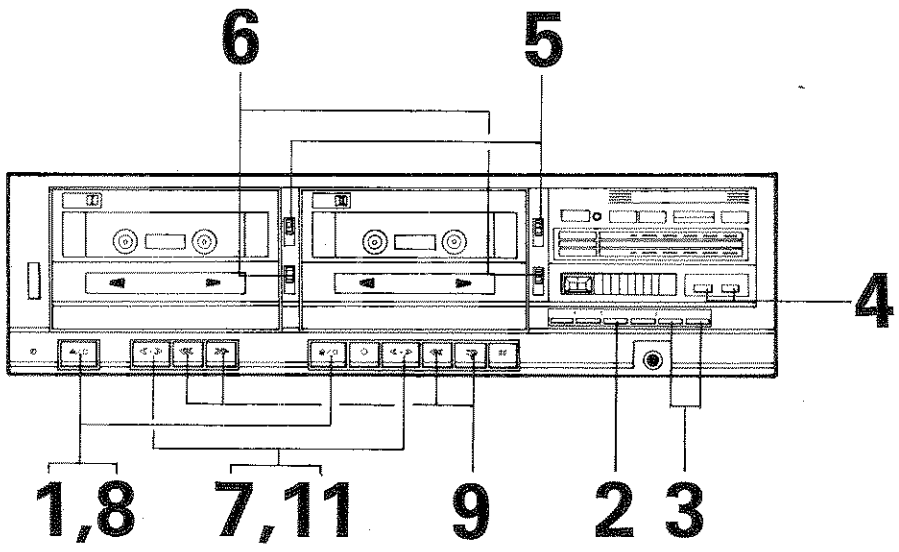
11 **Press the PAUSE button to cancel the stand-by mode. (Release the PAUSE button.)**

12 **Set the audio timer.**
- All components should be off when you have finished setting the timer.

13 **Press the REC button.**

■ Power to the components will be turned on at the time set on the timer, and recording will start automatically.

WAKE-UP PLAYBACK



- Both Deck I and Deck II can be used to play back tapes.

1 **Press the EJECT/STOP button of the deck to be used for playback to open the cassette compartment door, insert a prerecorded cassette, and close the door.**

2 **Set the COPY switch to the OFF (■) position.**
- If the COPY switch is in the ON (■)position, Deck I will not operate unless Deck II is in the REC or REC PAUSE mode.

3 **Press the appropriate DOLBY NR switches (OFF/B/C).**
- Select the DOLBY NR switches for the type of Dolby noise reduction that was used when the tape was recorded (or OFF if no noise reduction was used).

4 **If using Deck II, set the TAPE SELECTOR [II] switches according to the type of tape used.** (See page 6.)
- This setting is unnecessary if Deck I is used. (Deck I is equipped with an automatic tape selector function.)

5 **Set the Reverse MODE switches appropriately.** (See page 4.)

6 **If you wish to start playback in the direction opposite to that shown by the lighted tape direction indicator, press down the DIRECTION lever to select the opposite direction.**
- Playback direction is changed each time the DIRECTION lever is pushed down.

7 **Press the PLAY button.**
- Play back the tape and set the volume on the amplifier to the level you wish to use for wake-up playback.

8 **Press the EJECT/STOP button to stop playback.**

9 Use the FAST buttons (⋘ or ⋙) to locate the point on the tape from where you wish playback to begin.

10 **Set the audio timer.**
- All components should be off when you have finished setting the timer.

11 **Press the PLAY button of the deck to be used.**

■ Power to the components will be turned on at the time set on the timer, and playback will begin automatically.

MAINTENANCE

CLEANING THE HEAD, PINCH ROLLER AND CAPSTAN

The heads, pinch rollers and capstans are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high-frequency components are not reproduced and the stereo balance is impaired, resulting in a deterioration in the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Press the EJECT button and open the cassette door.
2. Dip the cleaning swab into the cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

NOTE:

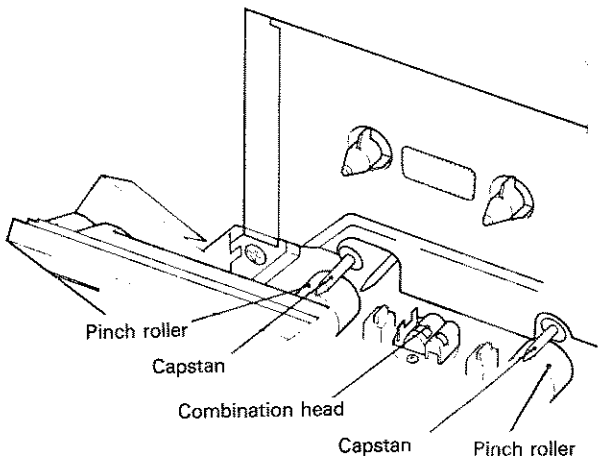
- *After cleaning, do not insert a tape until the cleaning liquid has dried (2 to 3 minutes).*
- *Set the power switches of the connected equipments to OFF.*

DEMAGNETIZING THE HEADS

After using the cassette deck over a period of time, the heads will become magnetized. The same effect is also caused by bringing a screwdriver, magnet or other magnetized object too near the heads. This causes loss of high-frequency sound during recording and playback, and is also a cause of interference noise. The heads should be regularly demagnetized with a head demagnetizer (eraser) which can be purchased at your dealer.
When demagnetizing the heads, be sure the cassette deck's POWER switch is in the STAND-BY position. For detailed instructions, consult the operating manual for your head demagnetizer (eraser).

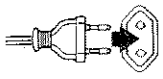
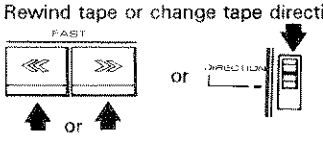
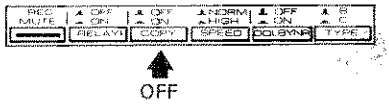
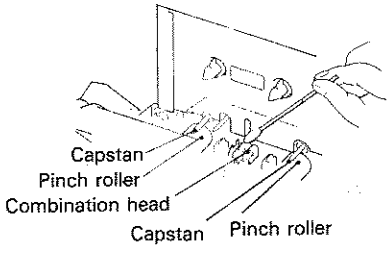
CLEANING THE FRONT PANEL SECTION

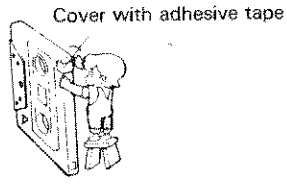
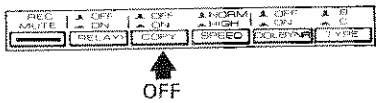
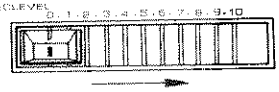
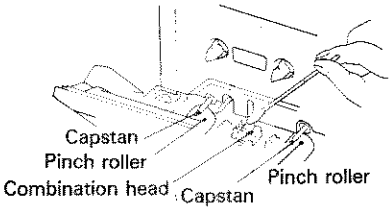
Wipe the front panel and the cassette door when dusty or greasy with a soft cloth containing a small amount of ordinary detergent. Then, wipe dry with a cloth. Never use volatile spirits like thinners, benzine or alcohol because they will damage the panel's finish.

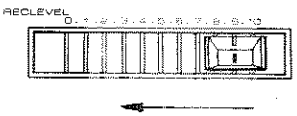
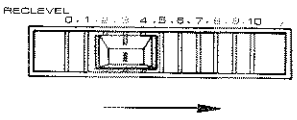


TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Possible cause	Remedy
No power even with POWER switch at ON.	• Disconnected power cord.	• Connect properly to power outlet. 
	• Power cord is connected to switched auxiliary outlet on a stereo camponent whose power is OFF.	• Switch on power of that component.
No tape run.	• Wound-up tape.	• Rewind tape or change tape direction. 
	• PAUSE button is depressed. • Cassette tape not loaded properly. • Slack tape.	• Release PAUSE button. • Re-load tape. • Take up slack using pencil (see page 7). Turn the pencil to remove tape slack
	• When the RELAY switch is turned to "ON" and one deck is operated, the other deck does not operate.	• Turn the RELAY switch to "OFF."
	• When the COPY switch is turned to "ON," deck I does not operate unless deck II is in the record mode.	• Turn the COPY switch to "OFF." 
No sound.	• Stereo amplifier's function switch is not set to TAPE. • Stereo amplifier's volume control is at minimum position. • Unrecorded tape has been loaded. • Disconnected or improper stereo amplifier connection. • Dirty heads.	• Set it to TAPE. • Try rotating volume control. • Try replacing tape. • Check all connections (see page 3). • Clean heads (see page 16). 

Symptom	Possible cause	Remedy
No recording.	• Cassette tape's accidental erasure prevention tab broken off.	• Cover tab hole with adhesive tape (see page 7). 
	• When the COPY switch is turned to "ON," the program signals from the LINE INPUT (REC) jacks cannot record.	• Turn the COPY switch to "OFF." 
	• REC LEVEL control set too low (no indication of the level meter during recording).	• Adjust the REC LEVEL control as indicated on page 8 and record. 
	• Disconnected or improper stereo amplifier connection. • Dirty head.	• Check all connections (see page 3). • Clean heads (see page 16). 
Previous sound remains when recording anew.	• Dirty heads.	• Clean heads (see page 16).
No treble sound.	• A tape, which was not recorded with the Dolby NR system, is being played back at ON position of DOLBY NR switch. • With deck II, the positions of the TAPE SELECTOR II switches do not match the tape being used.	• Set DOLBY NR switch to proper position. • Set the TAPE SELECTOR II switches to match the tape being used. (See page 6.)
	• Dirty heads.	• Clean heads (see page 16).
Boosted treble.	• A tape, which was recorded with the Dolby NR system, is being played back at OFF position of DOLBY NR switch. • With deck II, the positions of the TAPE SELECTOR II switches do not match the tape being used.	• Set DOLBY NR switch to proper position. • Set the TAPE SELECTOR II switches to match the tape being used. (See page 6.)

Symptom	Possible cause	Remedy
Distorted sound.	• Distortion in recorded tape itself. • Recording level is too high.	• Try replacing tape. • Turn down recording level and record (see page 8). 
High noise level.	• Tape itself has high noise level. • Connecting cord has been connected improperly.	• Replace cassette tape. • Inspect input and output connections; connect cords properly.
	• Unit has been placed near TV set.	• Distance it from TV set or switch off TV's power.
	• Recording level is too low.	• Turn up recording level and record (see page 8). 
	• Dirty heads. • Heads are magnetized.	• Clean heads (see page 16). • Demagnetize them with head eraser.

DEW CONDENSATION

When the unit is moved from a cold to a warm room, or the temperature changes quickly, condensation will form on the mechanical parts and this will affect the performance of the tape. In such cases, leave the unit in a warmer atmosphere for about one hour or change the room temperature gradually.

SPECIFICATIONS

Systems ..... 4 track, 2-channel stereo
Heads ..... "Hard Permalloy" recording/playback head x 1
"Hard Permalloy" playback head x 1
"Ferrite" erasing head x 1
Motor ..... DC servo capstan motor x 2
Wow and Flutter ..... No more than 0.07% (WRMS)
No more than ± 0.19% (DIN)
Fast winding Time ..... Approximately 110 seconds
(C-60 tape)
Frequency Response
−20 dB recording:
Normal tape ..... 20 to 15,000 Hz
Chrome tape ..... 20 to 15,500 Hz
Metal tape ..... 20 to 16,000 Hz
0 dB recording:
Normal tape ..... 20 to 10,000 Hz
Chrome tape ..... 20 to 11,000 Hz
Metal tape ..... 20 to 15,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ..... More than 57 dB
Noise Reduction Effect
Dolby NR B type ON ..... More than 10 dB (at 5 kHz)
Dolby NR C type ON ..... More than 19 dB (at 5 kHz)
Harmonic Distortion ..... No more than 0.7% (0 dB)
Input (Sensitivity)
LINE (INPUT) ..... 70 mV (Input impedance 100 kΩ)
Output (Reference level)
LINE (OUTPUT) ..... 316 mV (Output impedance 3.9 kΩ)
HEADPHONES ..... 45 mV (Load impedance 8 Ω)

Subfunctions

- Relay playback (Deck I ⇄ Deck II)
- Synchronized copy start
- High-speed and normal-speed tape copying (Deck I → Deck II)
- Dolby NR B/C types
- Auto tape selector (Deck I)
- 5 segments/channel LED level meter
- Music Scan (Cue and Review) (Deck I)
- Full automatic stop function
- Timer stand-by function
(Unattended recording: Deck II)
(Wake-up playback: Deck I and Deck II)
- One-Touch recording
- 3-digit mechanical tape counter

Miscellaneous

Power Requirements
U.S., Canadian models ..... AC 120 V, 60 Hz
European model ..... AC 220 V, 50/60 Hz
U.K., Australian models ..... AC 240 V, 50/60 Hz
U.S. military, other destination models
..... AC 120 V/220 V/240 V, 50/60 Hz (switchable)
Power Consumption
U.S., Canadian models ..... 18 W
European, U.K., Australian models ..... 21 W
U.S. military, other destination models ..... 16 W
Dimensions ..... 420 (W) x 115 (H) x 262 (D) mm
16-9/16 (W) x 4-1/2 (H) x 10-5/16 (D) in
Weight (without package) ..... 5 kg (11 lb)

Accessories

Operating instructions 1
Connection cord with pin plugs 2

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

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<87C01Y5H10>

Printed in Japan <RRB1003-B>